
सेमोलिना (सूजी या रवा) — विशिष्टि
(दूसरा पुनरीक्षण)

Semolina (*Suji* or *Rawa*) —
Specification
(*Second Revision*)

ICS 67.060

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FOREWORD

This Indian Standard (Second Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Foodgrains, Allied Products and Other Agricultural Produce Sectional Committee had been approved by the Food and Agriculture Division Council.

Semolina (*suji or rawa*) is made by grinding and bolting cleaned wheat to a certain degree of fineness (*see 4.2*) and freeing it from bran, germ, etc, to the desired extent. In certain parts of the country, the terms *suji* and *rawa* are used as synonyms, while in other parts they denote the product of two different particle sizes, namely, *suji* having a larger particle size and *rawa* comparatively smaller. In view of this, the sectional committee responsible for the preparation of this standard decided not to distinguish between the terms *suji* and *rawa* but classified the product into two types depending upon the particle size.

This Indian Standard was first published in 1957 and subsequently revised in 1968. This revision is being brought to align the requirements of semolina (*suji or rawa*) with the latest developments and the major changes include:

- a) Limit for moisture content has been reduced;
- b) Minimum level for gluten content has been increased; and
- c) Limits for lead, cadmium, aflatoxin B₁, total aflatoxin have been specified along with their test methods to align with *Food Safety and Standards (Contaminants, Toxins and Residues) Regulation, 2011*.

In the formulation of this standard, due consideration has been given to the provisions of the *Food Safety and Standards Act, 2006* and the Rules and Regulations framed thereunder and the *Legal Metrology (Packaged Commodities) Rules, 2011*. However, this standard is subject to the restrictions imposed under these, wherever applicable.

The composition of the Committee responsible for the formulation of this standard is given in Annex B.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

SEMOLINA (*SUJI* OR *RAWA*) — SPECIFICATION

(*Second Revision*)

1 SCOPE

This standard prescribes the requirements and the methods of sampling and test for semolina (*suji* or *rawa*).

2 REFERENCES

The standards listed in Annex A contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent edition of these standards.

3 REQUIREMENTS

3.1 Description

Semolina (*suji* or *rawa*) is the product prepared from clean grains of wheat, by grinding or milling and bolting processes followed by freeing it from bran, germ, etc, to the desired extent, which is prepared ready for sale to the consumer or destined for use in other food products. It shall have a characteristic taste and smell. It shall be free from musty or other off-odour, insect or fungus infestation, rodent contamination, dirt and other extraneous matter. It shall be safe and fit for human consumption.

NOTE — The appearance, taste and odour shall be determined by organoleptic tests.

3.2 Particle Size

On the basis of the particle size, semolina (*suji* or *rawa*) shall be of following types:

- a) *Large Particle Size* — When tested by the method prescribed in Annex B, not less than 90 percent of the material shall be retained on 710 micron IS Sieve [see IS 460 (Part 1)]; and
- b) *Small Particle Size* — When tested by the method prescribed in Annex B, not more than 10 percent of the material shall be retained on 710 micron IS Sieve [see IS 460 (Part 1)].

3.3 Microscopic Appearance of Starch

When the finely powdered product that is, semolina (*suji* or *rawa*) is subjected to microscopic examination, the starch granules shall have a characteristic appearance as shown in photomicrograph reproduced in Fig. 1, revealing concentric rings and more small granules than large ones.

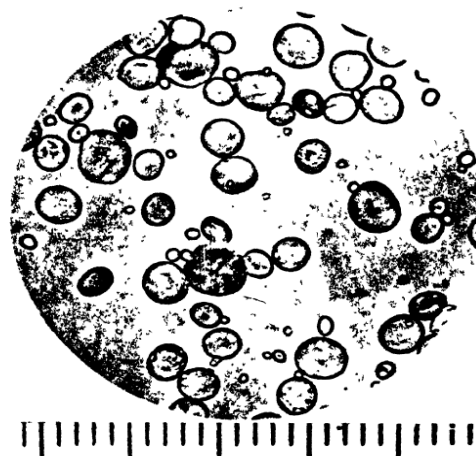


FIG. 1 PHOTOMICROGRAPH OF *SUJI* STARCH (X 325)
(SCALE : 1 DIVISION = 10 MICRONS)

3.4 The product may contain food additives as prescribed in Food Safety and Standards (*Food Products Standards and Food Additives Regulation*, 2011).

3.5 The product shall be manufactured, packed and stored under hygienic conditions in licensed premises (see IS 2491).

3.6 The product shall also comply with the requirements given in Table 1.

3.7 The metal contaminants and other toxic substances, if any, in the product shall not exceed the limits specified in Table 2.

4 PACKING

4.1 The product shall be packed in containers which will safeguard the hygienic, nutritional, technological, organoleptic qualities. The containers,

including the packaging material, shall be made of substances which are safe and suitable for their intended use. They should not impart any toxic substances or undesirable odour or flavour to the product. When the product is packaged in sacks, these must be clean, sturdy and strongly sewn or sealed.

4.2 The product may be packed in DW- flour bags (*see* IS 3984) or HDPE woven sacks (*see* IS 12100).

5 MARKING

5.1 The ink used for marking shall be of such quality which may not contaminate the product. Each package shall be suitably marked legibly and indelibly to give the following information:

- a) Name of the product;
- b) Month and year of manufacture;
- c) Name and address of the manufacturer;
- d) Batch or Code number;
- e) Net quantity;
- f) Expiry/Use by date; and
- g) Any other information required under the *Legal Metrology (Packaged Commodities) Rules, 2011* and the *Food Safety and Standards (Packaging and Labelling) Regulations, 2011*.

5.2 BIS Certification Marking

The product(s) conforming to the requirements of

this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act, 2016* and the Rules and Regulations framed thereunder, and the products may be marked with the Standard Mark.

6 SAMPLING

Representative samples of the product for ascertaining conformity to the requirements of this standard shall be drawn according to the method given in IS 14818.

7 TESTS

7.1 All the tests shall be carried out as specified in col (4) of Table 1 and Table 2.

7.2 Quality of Reagents

Unless specified otherwise, pure chemicals shall be employed in tests and distilled water (*see* IS 1070) shall be used where the use of water as reagent is intended.

NOTE — 'Pure chemicals' shall mean chemicals that do not contain impurities which affect the test results.

Table 1 Requirements for Semolina

(Clauses 3.6 and 7.1)

Sl No.	Characteristic	Requirements	Method of Test, Ref to
(1)	(2)	(3)	(5)
i)	Moisture, percent by mass, <i>Max</i>	13.00	Annex A of IS 1155
ii)	Total ash (on dry basis), percent by mass, <i>Max</i>	1.00	Annex B of IS 1155
iii)	Acid insoluble ash (on dry basis), percent by mass, <i>Max</i>	0.05	Annex C of IS 1155
iv)	Gluten (on dry basis), percent by mass, <i>Min</i>	8.00	Annex D of IS 1155
v)	Alcoholic acidity (as H ₂ SO ₄) in 90 percent alcohol, percent by mass, <i>Max</i>	0.10	Annex F of IS 1155

Table 2 Limits of Metal Contaminants and Other Toxic Substances*(Clauses 3.7 and 7.1)*

Sl No.	Parameters	Limits	Method of Test, Ref to
(1)	(2)	(3)	(4)
i)	Lead, mg/kg, <i>Max</i>	0.2	IS 12074
ii)	Cadmium, mg/kg, <i>Max</i>	0.1	15 of IS 1699
iii)	Total aflatoxin, µg/kg, <i>Max</i>	15.0	IS 16287
iv)	Aflatoxin B ₁ , µg/kg, <i>Max</i>	10.0	IS 16287
v)	Uric acid, mg/kg, <i>Max</i>	100.0	IS 4333 (Part 5)

ANNEX A

(Clause 2)

LIST OF REFERRED STANDARDS

<i>IS No.</i>	<i>Title</i>	<i>IS No.</i>	<i>Title</i>
IS 460 (Part 1) : 2020	Test sieves: Part 1 Wire cloth test sieves (<i>fourth revision</i>)	IS 12074 : 1987	Determination of uric acid Method for determination of lead by atomic absorption spectrophotometer
IS 1070 : 2023	Reagent grade water — Specification (<i>fourth revision</i>)	IS 12100 : 1987	Specification for high density polyethylene (HDPE) woven sacks for packing flour
IS 1155 : 2022	Atta — Specification (<i>third revision</i>)	IS 14818 : 2017/ ISO 24333 : 2009	Cereal and cereal products — Sampling (<i>first revision</i>)
IS 1699 : 1995	Methods of sampling and test for food colours (<i>second revision</i>)	IS 16287 : 2015 ISO 16050 : 2003	Foodstuffs — Determination of aflatoxin B ₁ , and the total content of aflatoxins B ₁ , B ₂ , G ₁ and G ₂ in cereals, nuts and derived products — High performance liquid chromatographic method
IS 2491 : 2013	Food hygiene — General principles — Code of practice (<i>third revision</i>)		
IS 3984 : 2002	Textiles — DW-flour bags — Specification (<i>first revision</i>)		
IS 4333 (Part 5) : 1970	Methods of analysis for foodgrains: Part 5		

ANNEX B*(Foreword)***COMMITTEE COMPOSITION**

Foodgrains, Allied Products, and Other Agricultural Produce Sectional Committee, FAD 16

<i>Organization</i>	<i>Representative(s)</i>
ICAR - Central Institute of Post-Harvest Engineering & Technology, Ludhiana	DR NACHIKET KOTWALIWALE (<i>Chairperson</i>)
All India Food Processors Association, New Delhi	SHRI KRISHNA KUMAR JOSHI SHRIMATI KAMIA JUNEJA (<i>Alternate</i>)
Central Warehousing Corporation, New Delhi	DR ANURAG TRIPATHI SHRI SIDHARTH RATH (<i>Alternate</i>)
Confederation of Indian Food Trade and Industry, New Delhi	SHRI KANNAN B. MS RITIKA (<i>Alternate</i>)
Confederation of Indian Industry, New Delhi	SHRI HIMALAYA KOUL MS NEHA AGGARWAL (<i>Alternate</i>)
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CSIR - Central Food Technological Research Institute, Mysuru	DR M. S. MEERA DR VIVEK BABU (<i>Alternate</i>)
Defence Food Research Laboratory, Mysuru	DR PAL MURUGAN M. MS SAKSHI SHARMA (<i>Alternate</i>)
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Food Safety and Standards Authority of India, New Delhi	MS APRAJITA VERMA
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<i>Organization</i>	<i>Representative(s)</i>
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ICAR - National Rice Research Institute, Cuttack	DR TORIT BARAN BAGCHI DR B. C. PATRA (<i>Alternate I</i>) DR SUTAPA SARKAR (<i>Alternate II</i>)
Indian Institute of Packaging, New Delhi	SHRI MADHAB CHAKRABORTY DR NILAY KANTI PRAMANIK (<i>Alternate</i>)
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Roller Flour Millers Federation of India, New Delhi	SHRI D. V. MALHAN
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Amendments Issued Since Publication

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